

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) An electrostatic spray system installation comprising members and flow distribution modules made from non conductive materials that are held in contact with each other, in which a conductive surface that is part of a member and that faces a flow distribution module is maintained at a voltage of a minimum of 20,000 volts, wherein each of the flow distribution modules is supplied by a controlled flow of a flowable material, and wherein the flow distribution modules can be given different dimensions and can be positioned to give various spray configurations.

2. (Original) An electrostatic spray system as claimed in claim 1 wherein the flow distribution modules are positioned at two sides of a member, or several rows of one or more parallel flow distribution modules are positioned in between parallel members, and in which flow distribution modules can in addition be positioned on the outside surfaces of the members.

3. (Currently Amended) A system as claimed in ~~any one of claims 1 or 2~~ claim 1 wherein a number of flow distribution modules are assembled to obtain a required spray length, in which different flowable materials are submitted to the flow distribution modules, in which the flow distribution modules have different dimensions, in which different flow rates are used for one or more flow distribution modules.

4. (Currently Amended) A system as claimed in ~~any one of claims 1 to 3~~ claim 1, comprising one or more target bars to define an electrostatic field or fields, in which the target bars are separate from a catch tray, and which may be formed to have high and low parts, to create distinctive electrical fields.

5. (Currently Amended) A system as claimed in ~~any one of claims 1 to 4~~ claim 1 wherein the electrostatic field follows a contour in a flat or curved plane, by shaping

the main vertical member and flow distribution modules and by having a similar contour in the target bars.

6. (Currently Amended) A system as claimed in ~~any one of claims 1 to 5~~ claim 1, wherein the flow distribution module contains a distribution groove that is connected to a number of smaller grooves parallel and in the direction of the electrostatic field, and that are distributed over the width of a flow distribution module.

7. (Currently Amended) A system as claimed in ~~any one of claims 1 to 6~~ claim 1, comprising a flowable material supply system that is electrically insulated, that can operate continuously, and that supplies the flow distribution modules with controlled flows.

8. (Currently Amended) A system as claimed in ~~any one of claims 1 to 7~~ claim 1 wherein the flowable material supply system is heated by a hot gas or liquid.

9. (Currently Amended) A system as claimed in ~~any one of 1 to 8~~ claim 1 wherein the members and flow distribution modules are heated by a hot gas or liquid.

10. (Currently Amended) A system as claimed in ~~any one of claims 1 to 9~~ claim 1 wherein the conductive charge imparting parts are thin, and covered by flow distribution modules.

11. (Currently Amended) A system as claimed in ~~any one of claims 1 to 10~~ claim 1 wherein the drip proof stop of the spray action is obtained by the control of the flow to the flow distribution modules in two directions, to provide temporary reverse suction of flow.

12. (Original) A system as claimed in claim 11 wherein the drip proof stop of the spray is obtained by combining temporary suction of the flow to a flow distribution module with the quick removal of the high voltage from the charging strip by means of a ground switch.

13. (Currently Amended) A system as claimed in ~~any one of claims 1 to 12~~ claim 1 wherein the drip proof stop is further facilitated by the location of the inlet of each distribution module below the feed line of the grooves that are aligned with the electrostatic field, ensuring the minimum of flowable material to be available for dripping.

14. (Currently Amended) A system as claimed in ~~any one of claims 1 to 13~~ claim 1 wherein a precise stacked metering pump, driven by a precisely controlled motor, supplies a number of flow distribution modules over the length of a spray assembly.

15. (Currently Amended) A system as claimed in ~~any one of claims 1 to 14~~ claim 1 wherein the outlet lines of the precise stacked metering pump are provided with valves so that individual flow distribution modules can be supplied with flowable material or be disconnected from the supply, by diverting the flow from the outlet lines back to the feed tank.

16. (Currently Amended) A system as claimed in ~~any one of claims 1 to 15~~ claim 1 wherein the flowable material is sprayed on a belt or roll which subsequently transfers this material to a web of material to be coated with the flowable material.

17. (Original) A system as claimed in claim 16 wherein the web comprises two sides and the two sides of the web are coated by using two spray assemblies which spray downwards and through which the web is guided by rollers in an S configuration.

18. (Original) A system as claimed in claim 17 wherein the two sides of the web are coated by using two spray assemblies which spray downwards and through which the web is guided by rollers in an C configuration.

19. (Currently Amended) A system as claimed in ~~any one of claims 1 to 18~~ claim 1 wherein the flowable material is heated when being sprayed, but then subsequently cooled with a cold gas such as cold air to provide a lower temperature of the flowable material when it reaches the target.

20. (Currently Amended) A system as claimed in ~~any one of claims 1 to 19~~ claim 1 wherein the spray system with flow distribution modules is illuminated in the area on the lips where ligament flow occurs during spraying, and a video camera is used to count the ligaments.

21. (Currently Amended) A system as claimed in ~~any one of claims 1 to 20~~ claim 1 wherein grounding switches are provided as a means to remove the high voltage quickly from the charged parts.

22. (Currently Amended) A system as claimed in ~~any one of claims 1 to 21~~ claim 1 wherein said system is automated and controlled by a computer system.

23. (Currently Amended) A system as claimed in ~~any one of claims 1 to 22~~ claim 1 wherein said system is preceded by a dust removal device such as a web cleaner, or a separate electrostatic device for dust removal.

24. (Currently Amended) A system as claimed in ~~any one of claims 1 to 23~~ claim 1 wherein atomization by a gas such as air is incorporated.

25. (Currently Amended) A system as claimed in ~~any one of claims 1 to 24~~ claim 1 wherein mechanical energy is used to affect the spray characteristics.

~~26)-26.~~ (Currently Amended) An electrostatic flow distribution and charging system, for the spraying of a flowable material by distribution and charging to a suitable high voltage and the spraying of the material by a multiplicity of parallel ligamental streams, wherein said system comprises:

an assembly of one or more insulated non-conductive flow distribution modules, said modules comprising grooves, a conductive surface with electrical connection to such surface, whereby the flowable material is electrically insulated in said system except for said conductive surface and electrical connection, means for application of an electrostatic field, one

or more target bars to define the electrostatic field, and one or more catch trays, each groove being aligned with the direction of the electrostatic field, whereby:

the flowable material is sprayed with minimum loss from electrical currents through said assembly, the flow of material being distributed and guided through said grooves in the non-conductive flow distribution modules and over the electrically conductive part of said assembly substantially parallel with the electrostatic field, the application of the electrostatic field providing a positive force or pressure to move the material that is sprayed, through said grooves, the flow through each groove in a flow distribution module being substantially equal or independent of specific geometry of groove or module, to hydrodynamically distribute the flowable material to be sprayed over a length of a distribution module, while the flow to each distribution module is controlled separately so that long, multiple and shaped spray assemblies can be made with a precise distribution of flow, while different flowable materials can be used in sections of the spray assembly, and wherein the target bars that define the electro static field are separate from any catch trays and shaped to create different spray patterns.